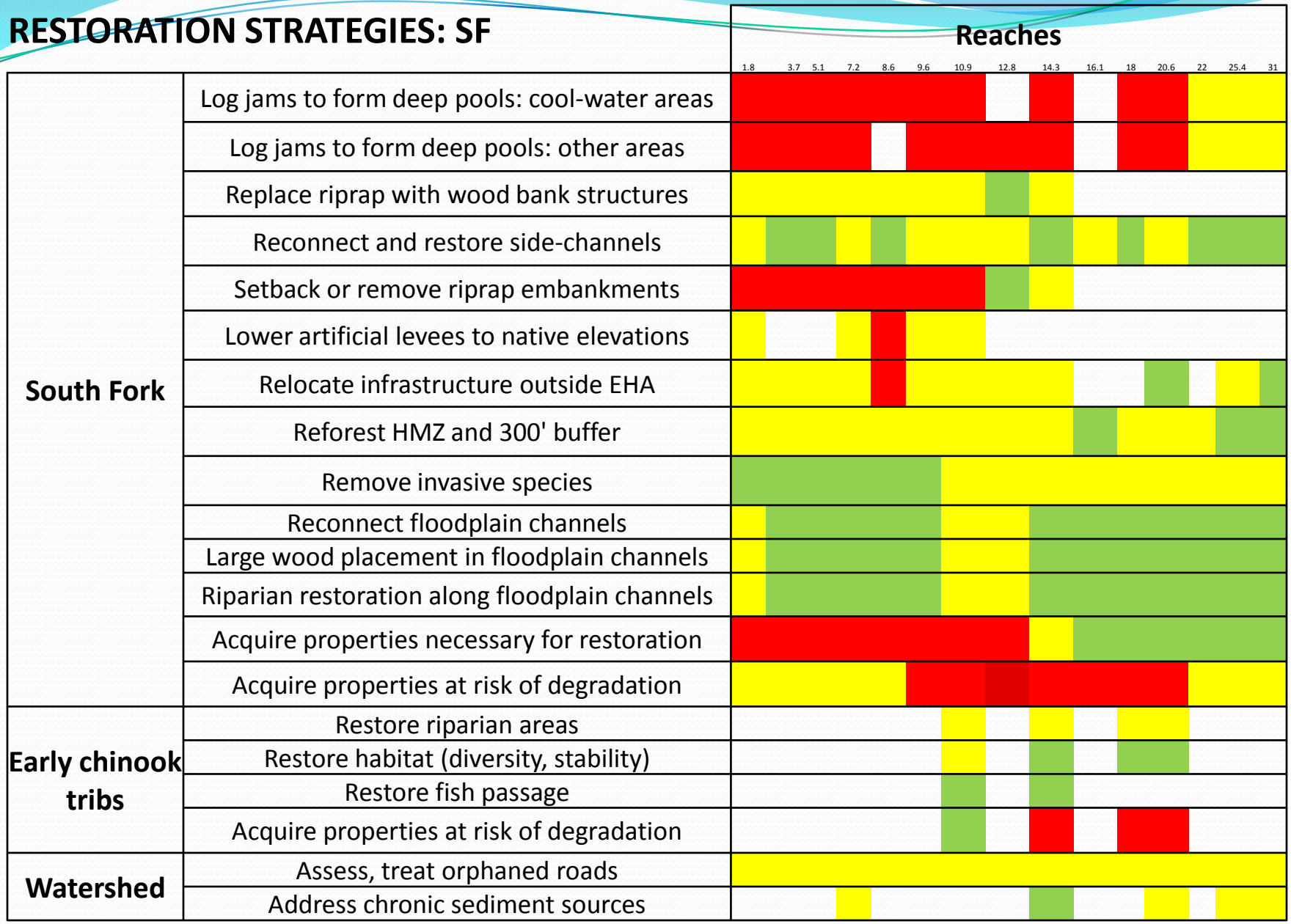
Current South Fork Restoration Strategies

Treva Coe

Nooksack Tribe

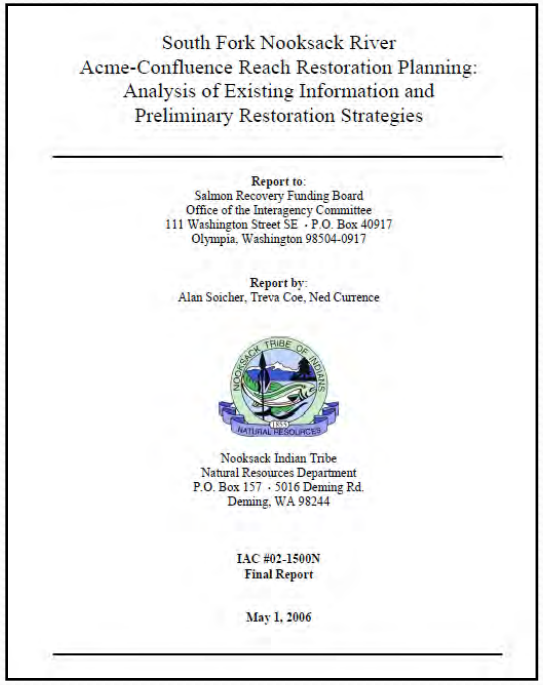
RESTORATION STRATEGIES: SF



Habitat Restoration in the SF

Studies/Other Information

- Detailed habitat assessments/restoration plans


South Fork Nooksack River
Acme-Confluence Reach Restoration Planning:
Analysis of Existing Information and
Preliminary Restoration Strategies

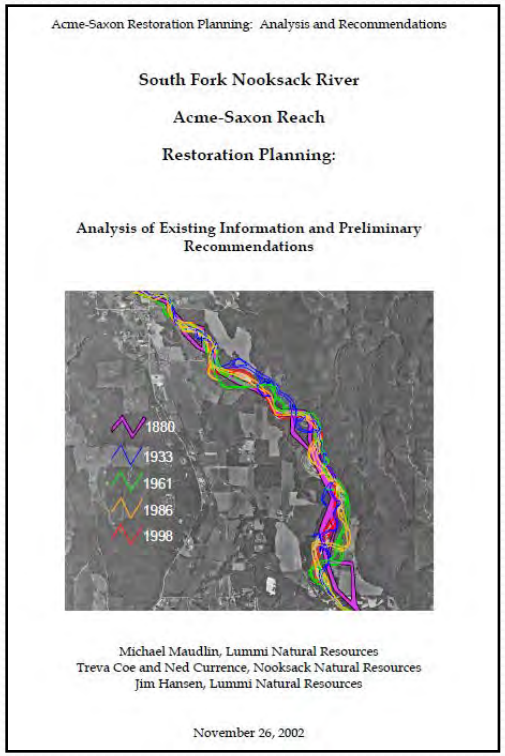
Report to:
Salmon Recovery Funding Board
Office of the Interagency Committee
111 Washington Street SE · P.O. Box 40917
Olympia, Washington 98504-0917

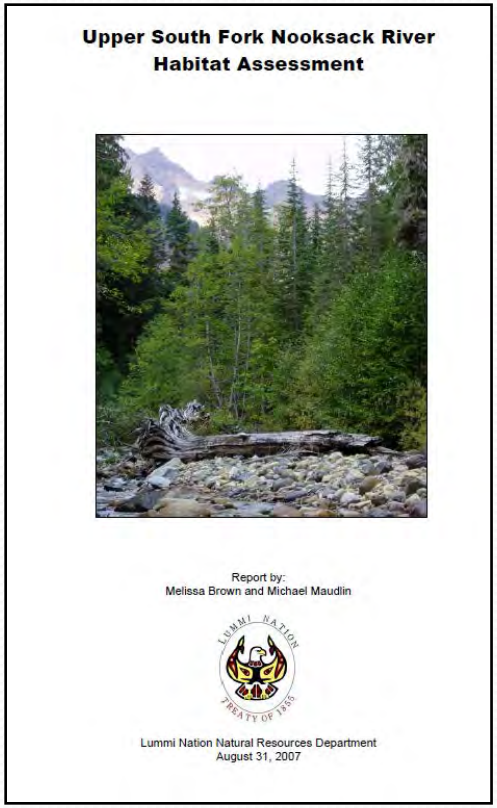
Report by:
Alan Soicher, Treva Coe, Ned Currence

Nooksack Indian Tribe
Natural Resources Department
P.O. Box 157 · 5016 Deming Rd.
Deming, WA 98244

IAC #02-1500N
Final Report

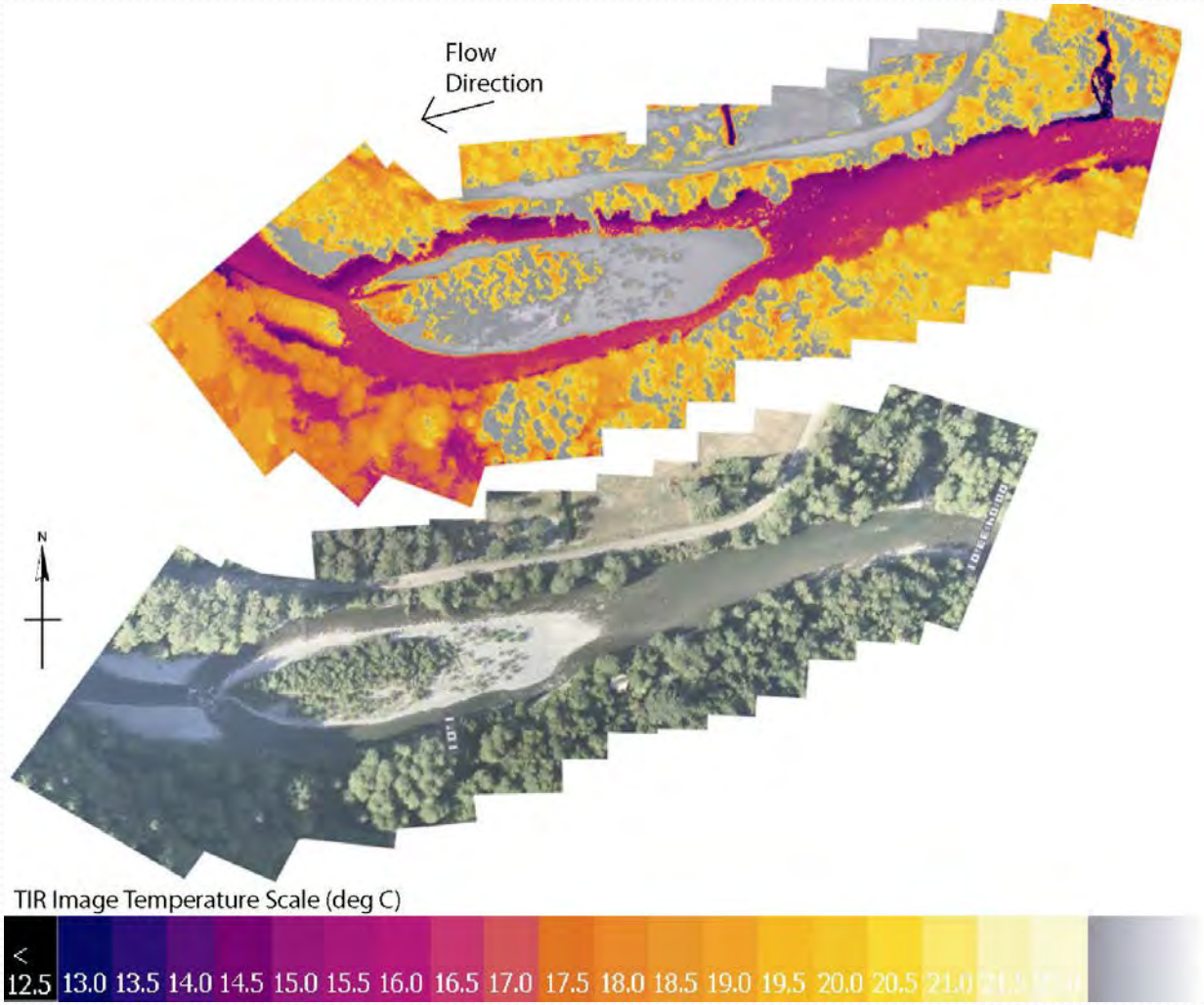
May 1, 2006

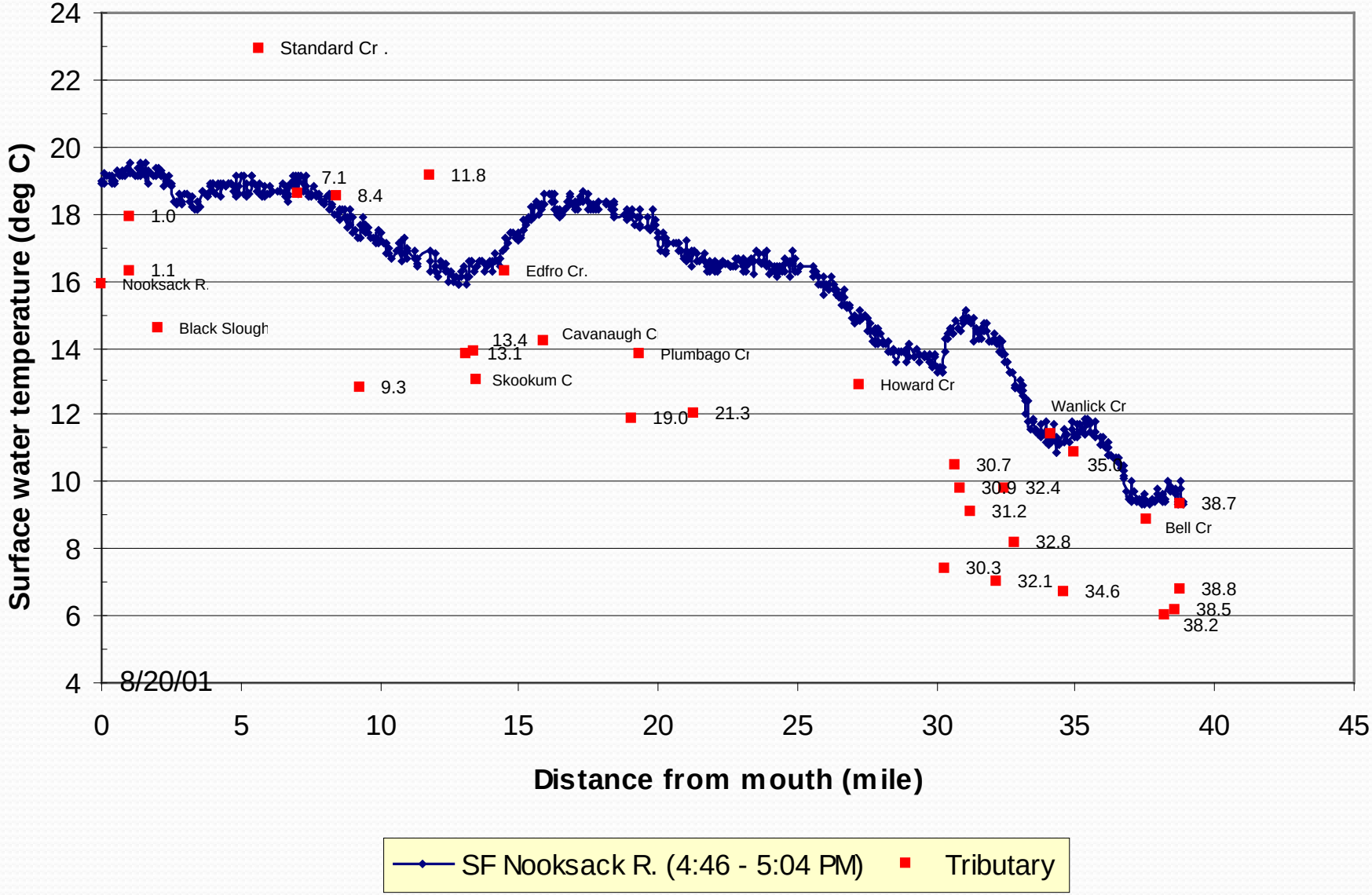




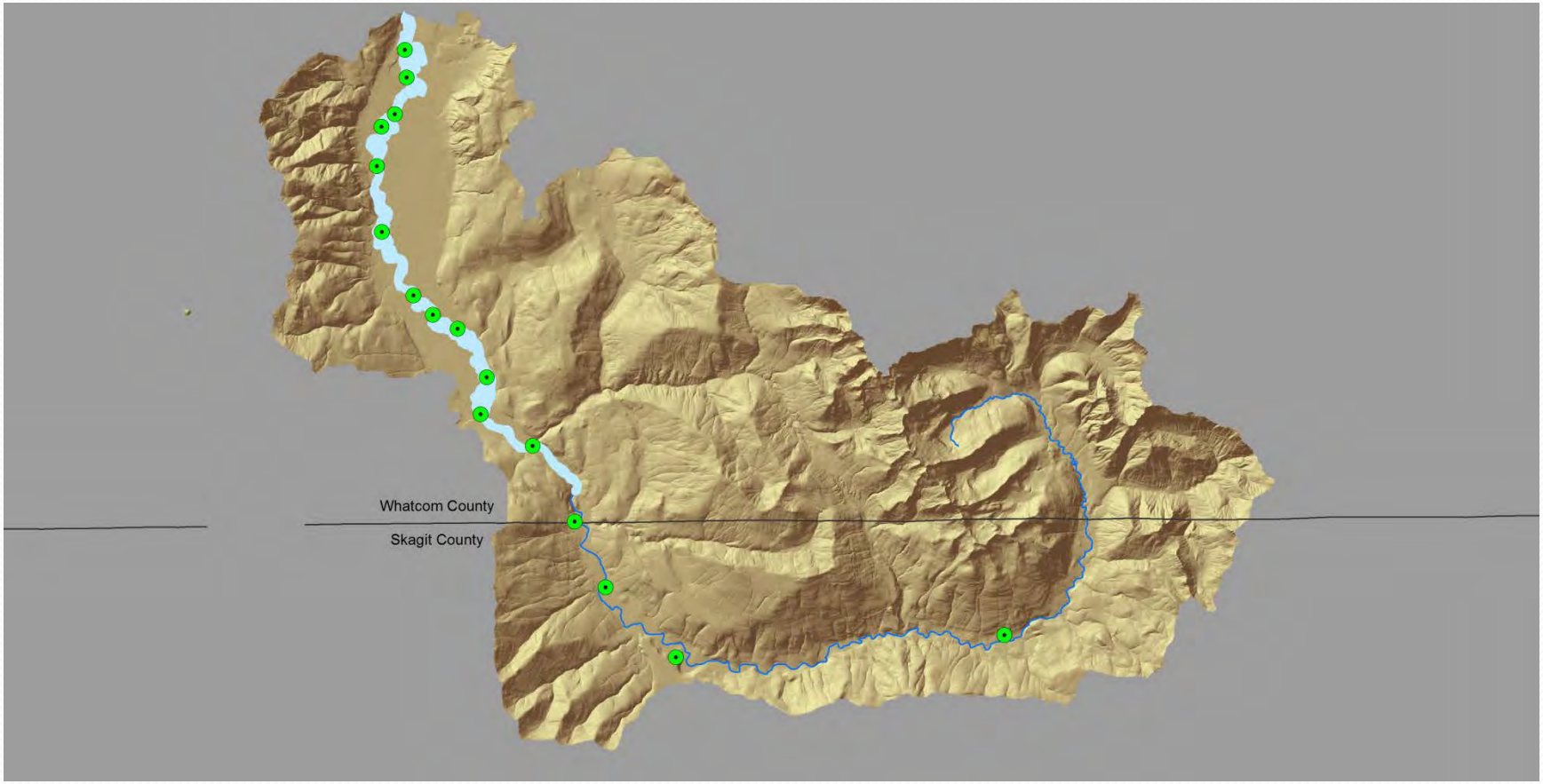
Studies/Other Information

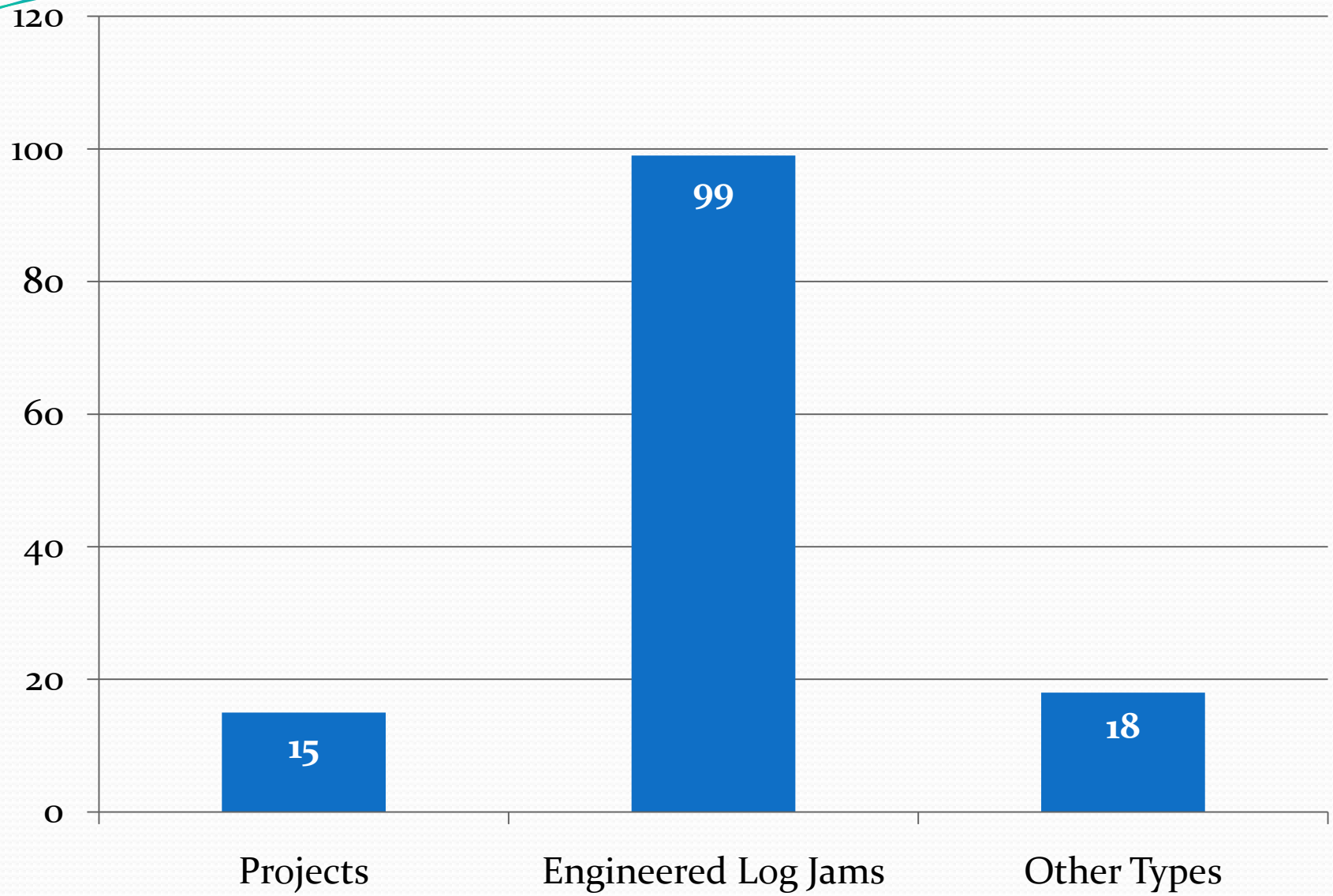
- Salmonid Use
  - Spawner surveys
  - Juvenile broodstock collection, limited snorkel surveys
- Temperature
  - FLIR: 2001
  - Ongoing temperature status and trends monitoring
- GIS
  - Habitat surveys
  - Historic channels and floodplain: ~1880, 1910, 1938+
  - LiDAR: 2006/2009; 2013 (+ earlier photogrammetry)
  - Land Use/Land Cover
  - CMZ components: HMZ, EHA, AHZ
  - 100-year Floodplain
  - Landslides, slope stability
- USGS Groundwater Study (in progress)
- SF Temperature TMDL (in progress)


Flow
Direction
N
TIR Image Temperature Scale (deg C)
< 12.5
13.0
13.5
14.0
14.5
15.0
15.5
16.0
16.5
17.0
17.5
18.0
18.5
19.0
19.5
20.0
20.5
21.0


Surface water temperature (deg C)
Distance from mouth (mile)
24
22
20
18
16
14
12
10
8
6
4
0
5
10
15
20
25
30
35
40
45
Standard Cr .
1.0
1.1
Nooksack R.
Black Slough
7.1
8.4
11.8
Edfro Cr.
13.4
13.1
Cavanaugh C
Plumbago Cr
Skookum C
9.3
19.0
21.3
Howard Cr
Wanlick Cr
30.7
35.0
30.9
32.4
31.2
38.7
Bell Cr
32.8
30.3
32.1
34.6
38.8
38.5
38.2
8/20/01
SF Nooksack R. (4:46 - 5:04 PM)
Tributary

Voluntary: Instream Projects




120
100
80
60
40
20
0
15
99
18
Projects
Engineered Log Jams
Other Types

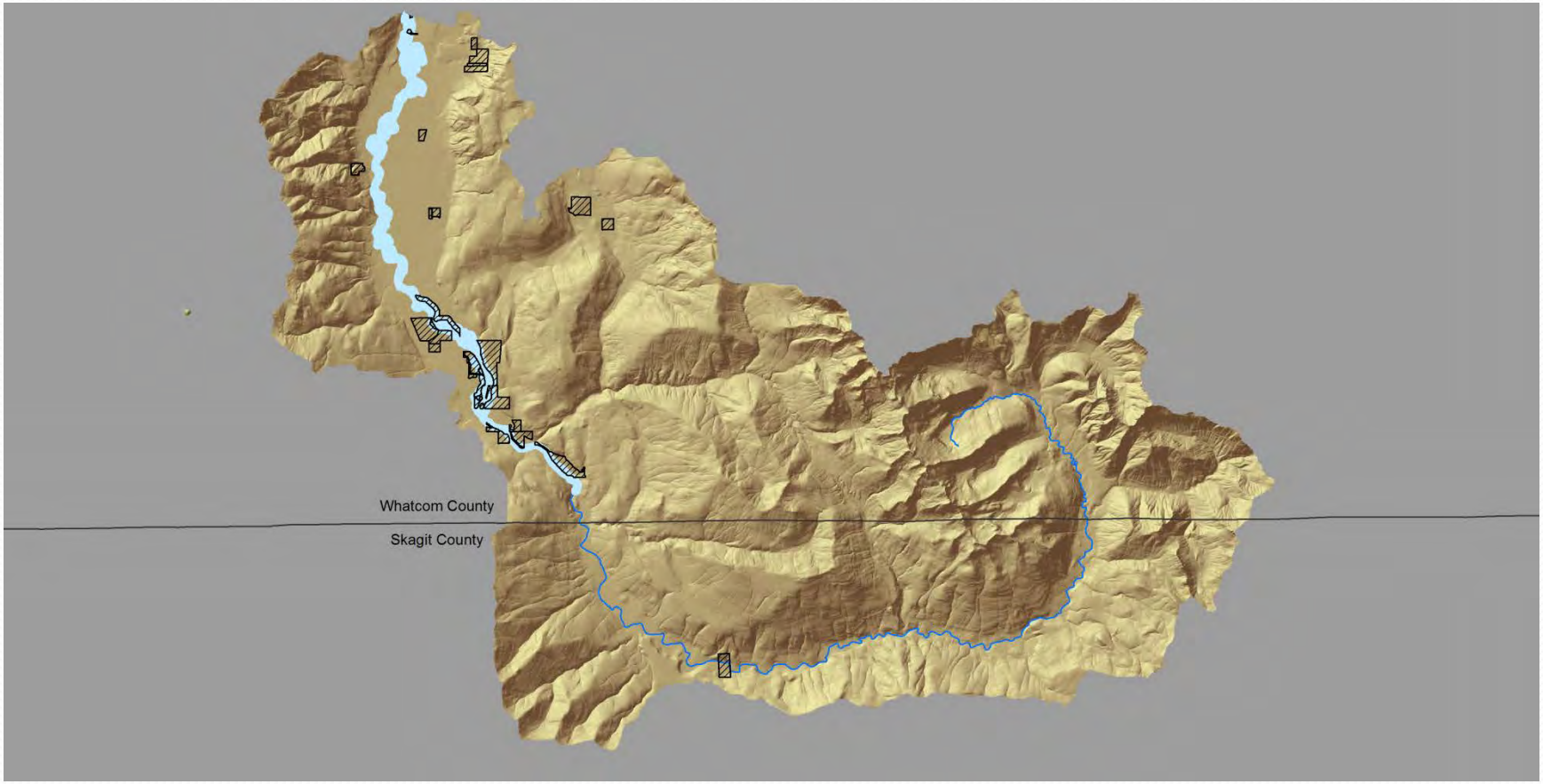
Objectives

- General
  - Pool formation (esp primary pools)
  - Increase complex woody cover
  - Create temperature refuges
- Project-specific
  - Stabilize (i.e. isolate channel from) landslides
  - Sort gravel
  - Increase side channel length
  - Bank stabilization

Fobes Cr. project

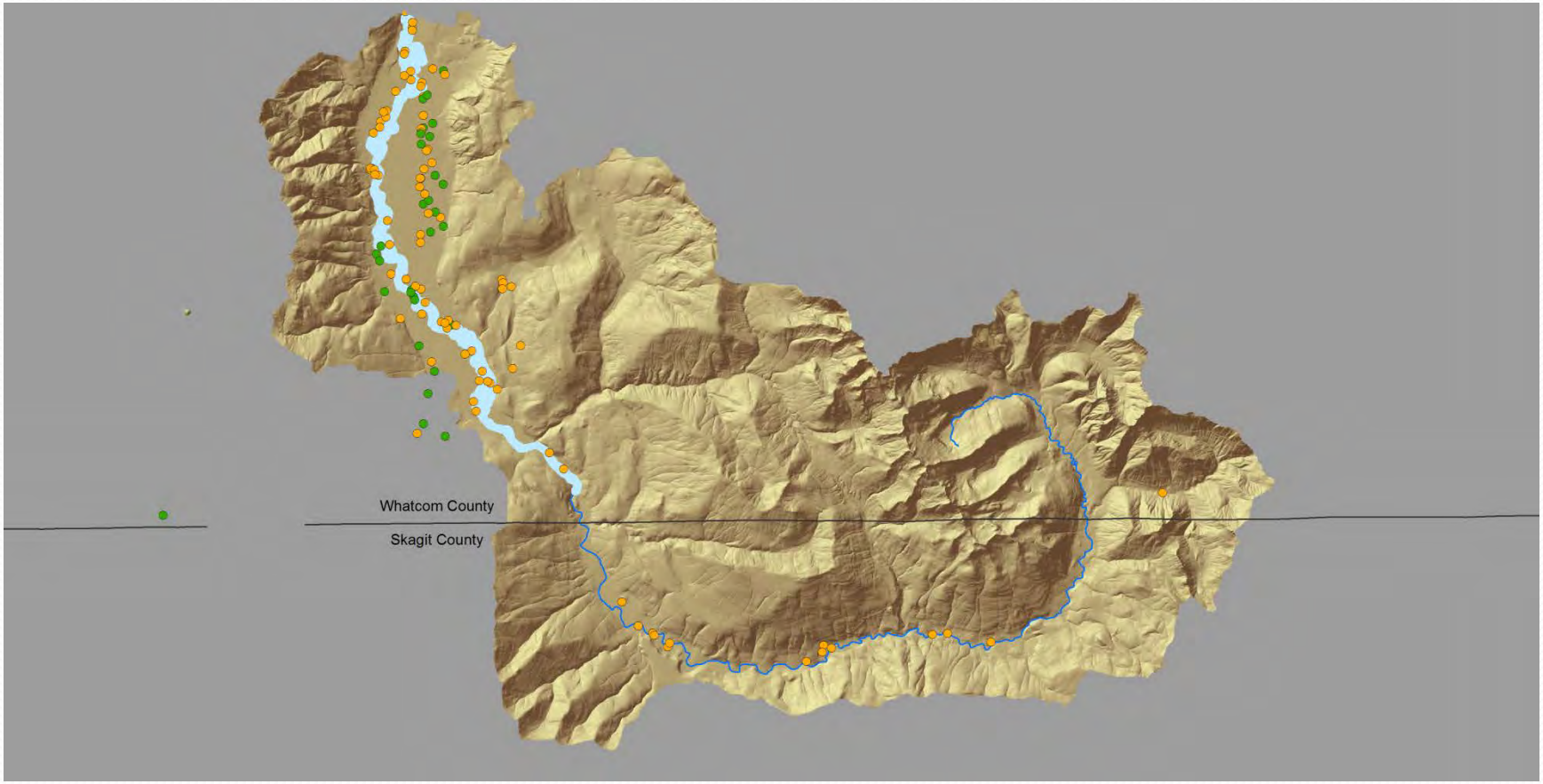
Source: Lummi Natural Resources

Voluntary: Acquisition



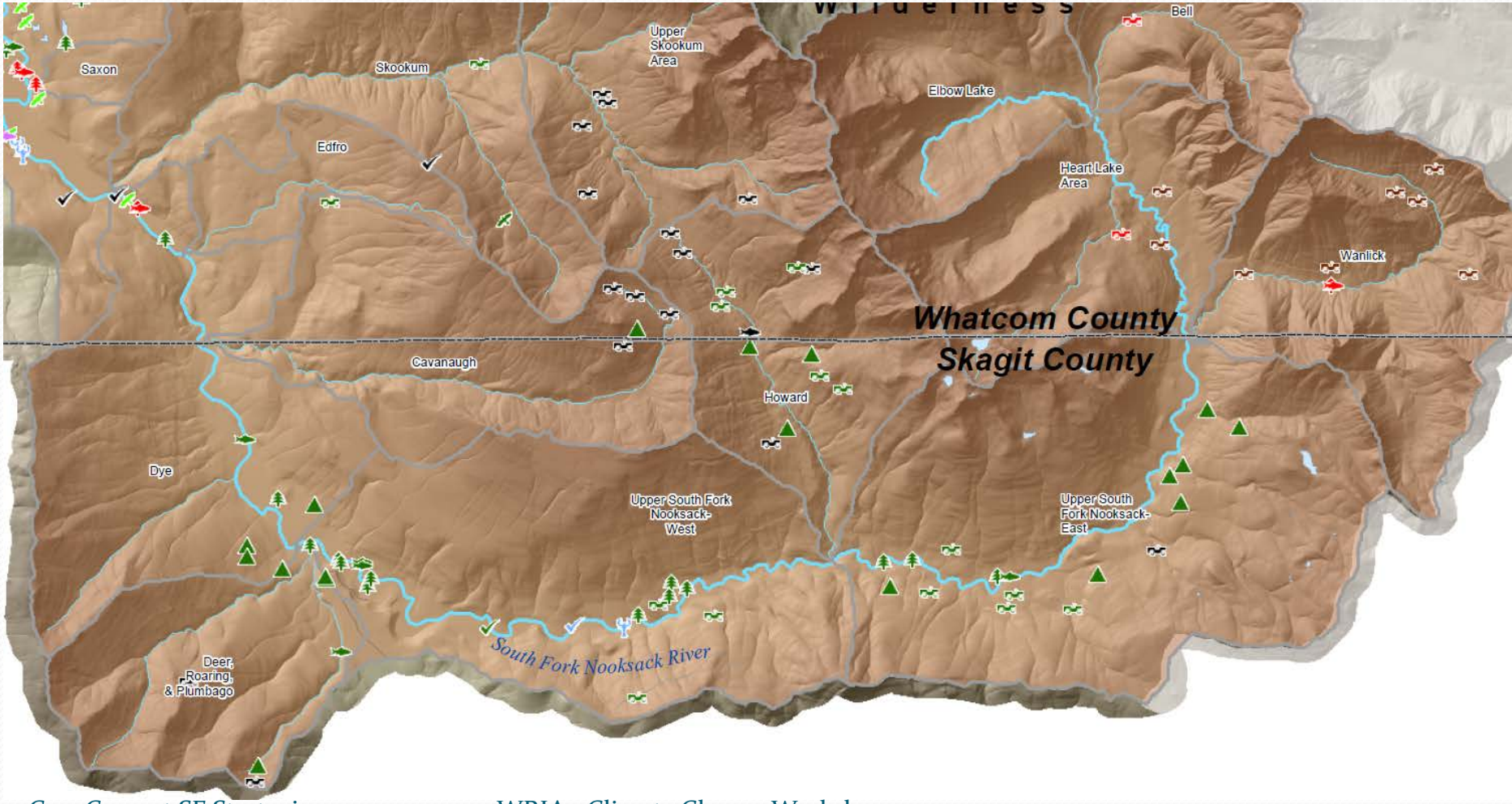
Source: Whatcom Land Trust

Voluntary: Riparian

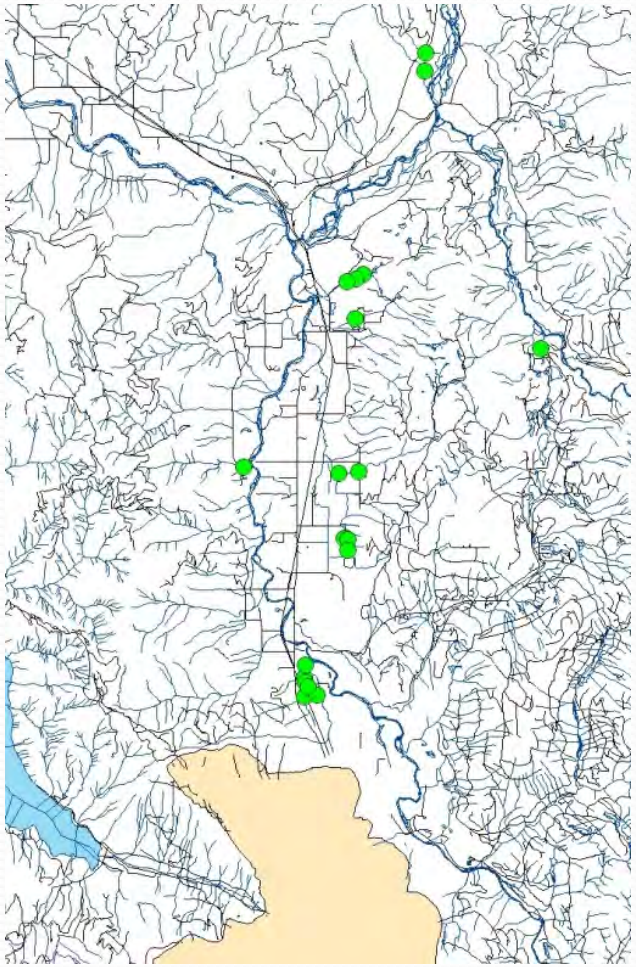


Source: Whatcom Conservation District

Voluntary: Road Projects

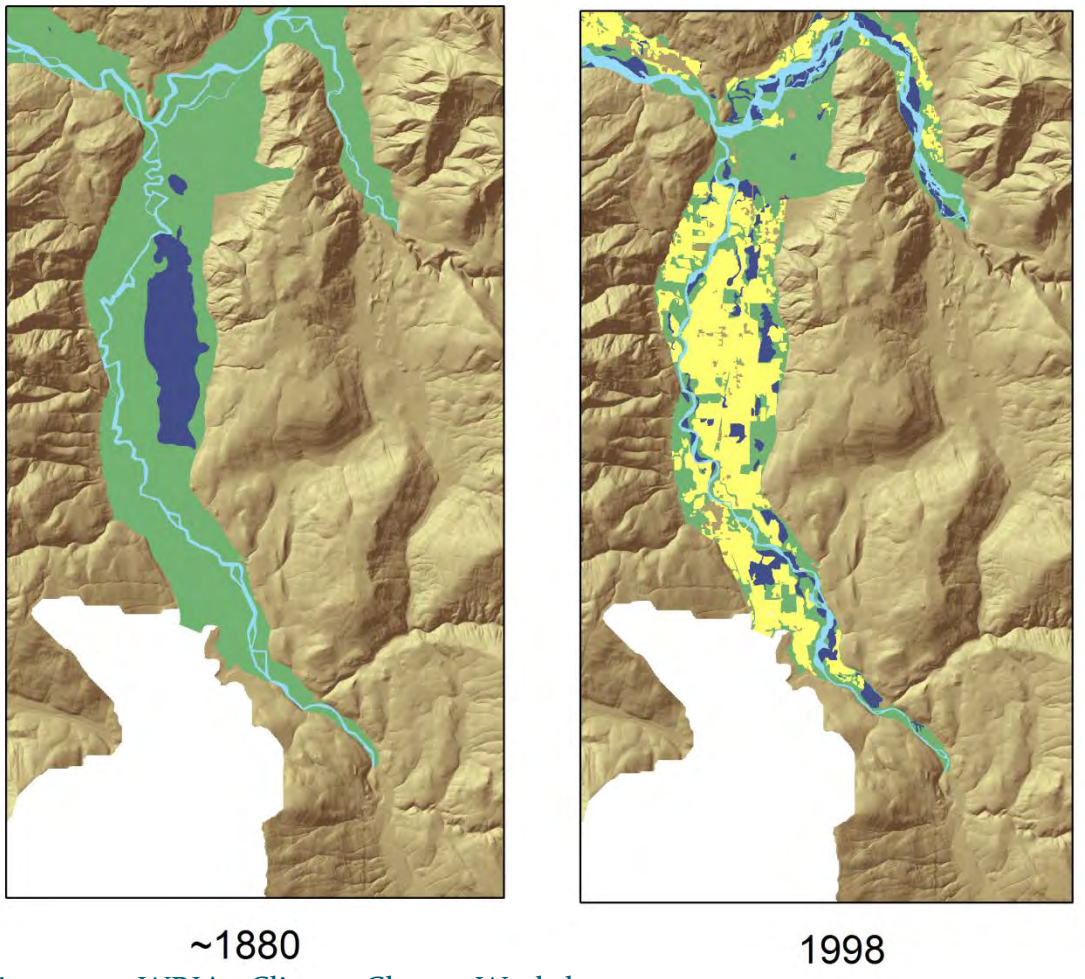


Voluntary: Fish Passage

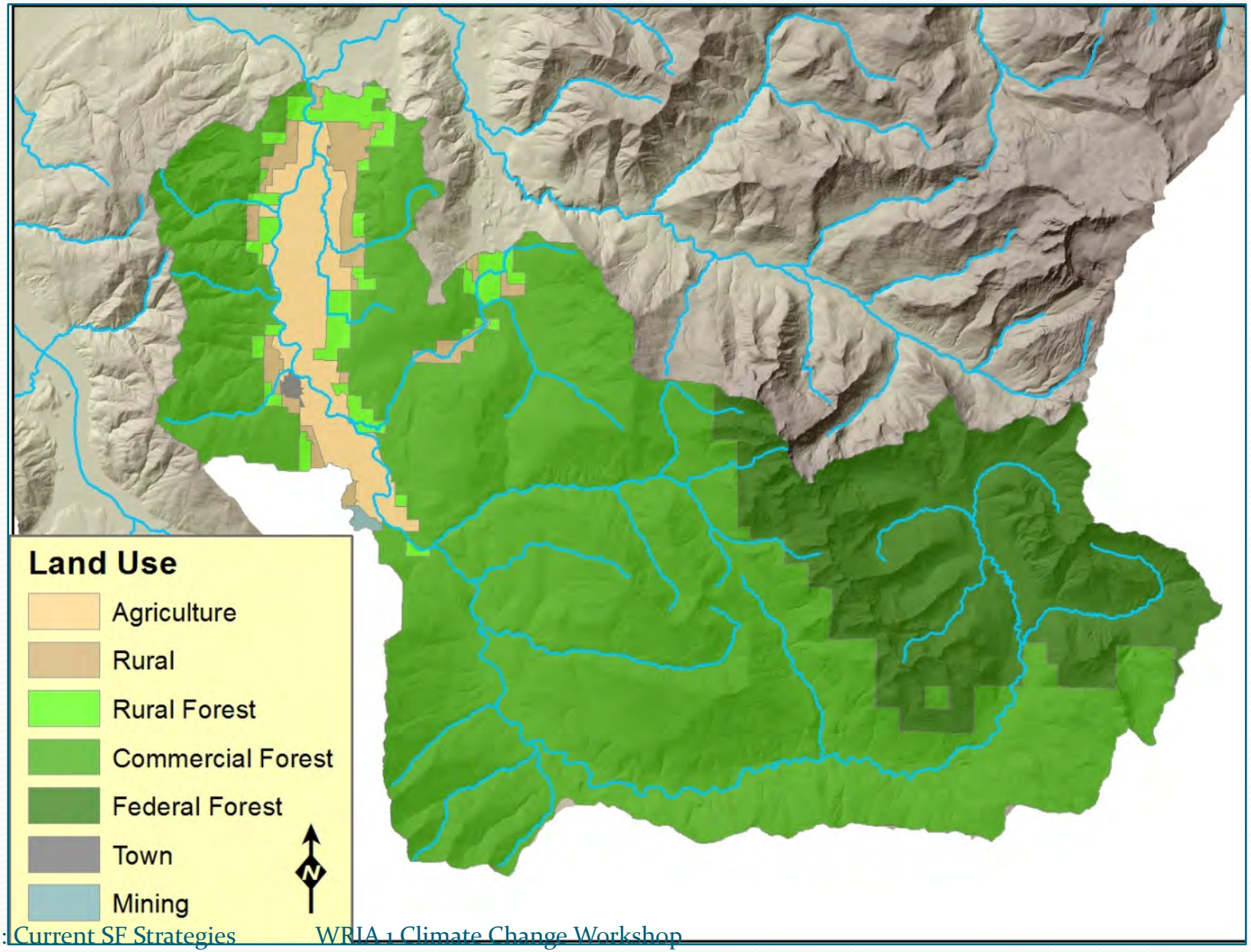


Source: NSEA

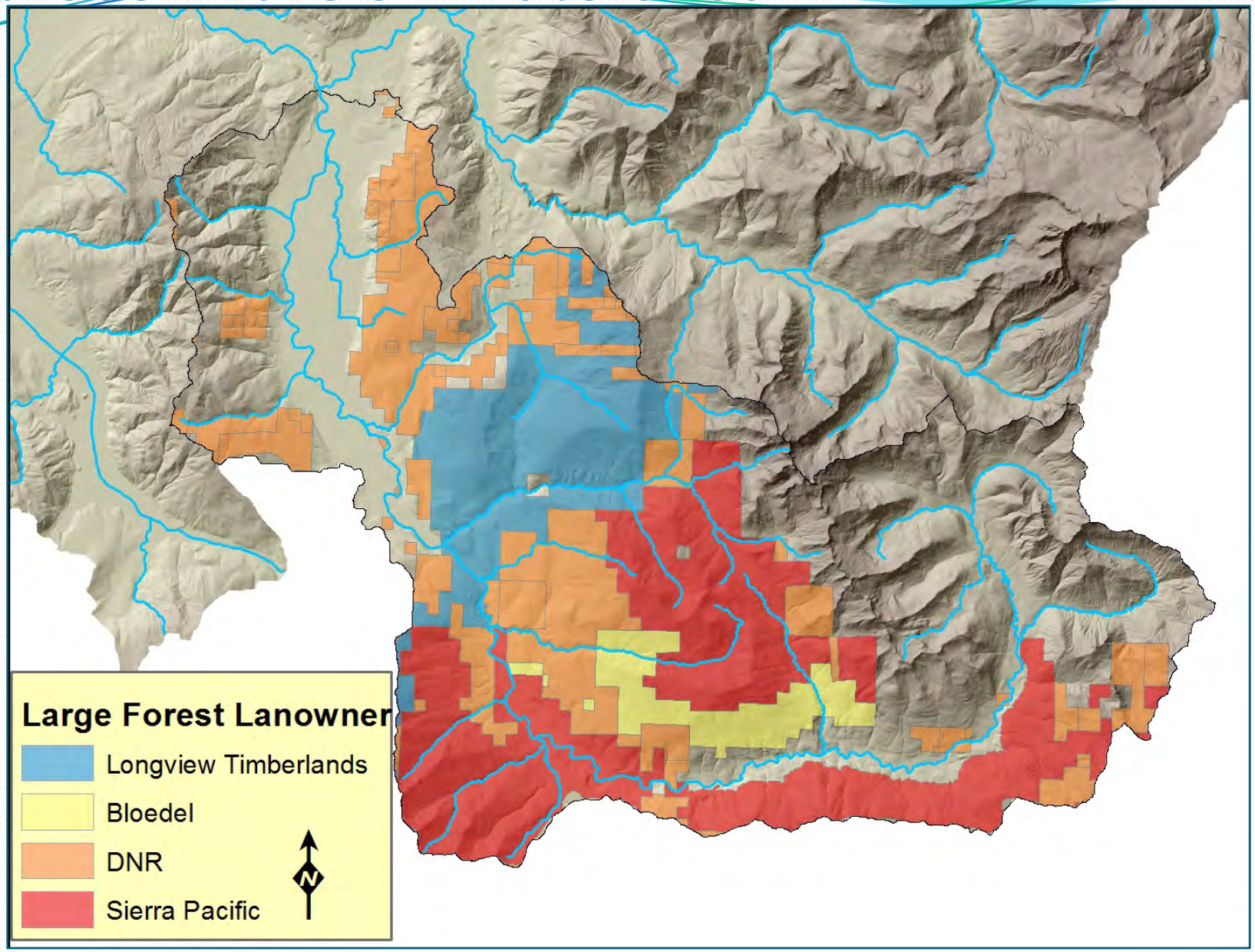
Voluntary: *Wetland*



Land Use Regs



Land Use in the SF Watershed



Instream Flows

- Process
  - Technical work completed by USU
    - Preliminary technical instream flow recommendations
  - Instream flow selection and adoption plan adopted
  - Instream flow negotiations…
- Desired outcome
  - Target flows
  - Management strategies
  - Formal settlement agreement, consent decree, adjudication

Category	Temperature increase	Base flow decrease	Peak flow increase	Increase resilience
Barrier removal	Y	Y	N	Y
Floodplain reconnection	Y	N	Y	Y
Vertical connectivity	Y	Y	Y	Y
Stream flow regimes	Y	Y	N	Y/N
Sediment reduction	N	N	N	N
Riparian restoration	Y	N/Y	N	N
Instream rehabilitation	Y/N	N	N	N
Nutrient enrichment	N	N	N	N